
SECURITY ASSISTANCE PERSPECTIVES

Report of the Presidential Advisory Board on Arms Proliferation Policy

By

**Dr. Janne E. Nolan, Chair, Edward Randolph Jayne II,
Ronald F. Lehman, David E. McGiffert, And Paul C. Warnke**

[Section 1601 of the National Defense Authorization Act for Fiscal Year 1994 (P.L. 103-160) required the establishment of a five-member Presidential Advisory Board on Arms Proliferation. This Board was tasked by Congress to conduct a study of the "(1) factors that contribute to the proliferation of strategic and advanced conventional military weapons and related equipment and technologies, and (2) the policy options that are available to the United States to inhibit such proliferation." The Board, composed of the five authors identified above, was appointed by President Clinton on 20 January 1995, and in mid-July the Board published the report of its study, which is reprinted below. The RAND National Defense Research Institute provided research support to the Board, and RAND has published a companion study to that of the Board, entitled *Arms Proliferation Policy: Support to the Presidential Advisory Board*. This 132-page report is available through RAND Distribution Services. Telephone: (310) 451-7002; Fax: (310) 451-6915; Internet: order@rand.org]

CHAPTER ONE

The Conventional Weapons Challenge

Since the end of the cold war the constant dollar value of conventional weapons exported by the six major suppliers has dropped by more than half, mostly because of a sharp decline in exports from the former Soviet Union.¹ Accompanying this overall decline in exports, domestic arms procurement in supplier countries also has dropped precipitously, leaving excess weapons production capacity worldwide. As a result, economic pressures to export advanced weapons and technologies have increased, exacerbated by a growing interest in high-end weapons and technology stimulated in part by the Gulf War. At the same time, the Coordinating Committee on Multilateral Exports (CoCom) was disbanded. Although this left in place national laws controlling transfers, it meant that the only remaining formal international controls were limited to those on weapons of mass destruction and related missile technologies. The recently concluded Wassenaar Arrangement holds promise for restraining both conventional arms and weapons-related technology exports, but it is too early to judge its potential impact.

The control of conventional arms and technology exports has always been subordinate in priority to other forms of military trade regulation. The nuclear nonproliferation regime owes its

¹ The value of former Soviet weaponry is based on the equivalent constant dollar value of comparable Western equipment. For further reading on how these calculations are made, see "Estimating and Interpreting Defence Economic Data," in *The Military Balance, 1994-1995*, International Institute for Strategic Studies, Brassey's, London, 1994, pp. 278-285. Also see the Board's discussion in Chapter Three of the need to consider estimates based on methods other than dollar-value comparisons.

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
I. REPORT DATE 1996		2. REPORT TYPE		3. DATES COVERED 00-00-1996 to 00-00-1996	
4. TITLE AND SUBTITLE Report of the Presidential Advisory Board on Arms Proliferation Policy				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Defense Institute of Security Assistance Management (DISAM),DISAM/DR,2475 K Street,Wright-Patterson AFB,OH,45433-7641				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES The DISAM Journal, Fall 1996, Volume 19, Issue 1, p.57-75					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 19	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

genesis to the monopoly on nuclear capabilities maintained for many years by the five declared nuclear powers and is held together by a widespread consensus about the unique dangers of nuclear weapons. In the case of chemical and biological weapons, eliciting multinational support for a restraint regime is possible in large measure because of the less than compelling military utility of these weapons among the advanced powers and the opprobrium raised by the grave risks they pose to noncombatants.

The proliferation of conventional arms and technologies, by contrast, shares few of these attributes. The monopoly among a few suppliers for all but the most advanced armaments is already shattered, the dangers of proliferation are disputed by many, and the perceptions of utility tend to overwhelm any moral opprobrium. Conventional weapons transfers also have been seen as a benign alternative to nuclear proliferation and remain the most common instrument of dissuasion in efforts to stop new states from acquiring nuclear weapons. The principal formal international conventional arms transfer restraint arrangement, the Missile Technology Control Regime (MTCR), restricts the sale of ballistic and cruise missiles, largely because of their association with nuclear, chemical, or biological weapons delivery.

The problem is made more difficult by the absence of internationally accepted criteria for determining what kinds of arms and technology exports are undesirable. It is impossible as a practical matter to classify most weapons and technologies as either offensive or defensive. A tank, for example, could be either, depending on the proclivities of the user. And while it may be possible at any given time to identify potential aggressors, today's peace-loving state may be tomorrow's pariah or *vice versa*.

The experience of the U.S.-led coalition war against Iraq indicates the dangers of a *laissez-faire* approach to the international trade in conventional arms and technologies. Western militaries confronted an Iraqi arsenal made up largely of weapons and technologies provided by the industrialized countries, prompting recognition that the political will to control the military technology trade was far too weak. Since then, however, the predominant focus of policy innovations has remained on nuclear, chemical, biological, and missile technologies. The real challenge yet to be addressed in the United States and other advanced countries is how to preserve superior conventional military capabilities and a healthy industrial base without a chronic dependency on exports of the kind that can accelerate diffusion of weapons and technology beyond what is prudent.

Bureaucratic inertia compounds the difficulty of meeting this challenge. The illumination of a new problem, or the assignment of urgent priority to an existing issue, is often greeted with less than enthusiasm by policymakers and bureaucrats. Aside from the crush of daily business in the Departments involved, today's budget constraints are unparalleled in recent decades. Nonetheless, the Board is strongly convinced that control of conventional arms and technology transfers must become a significantly more important and integral element of United States foreign and defense policy if the overall goals of nonproliferation are to succeed.

Among the many reasons for this conviction, five stand out. First, "conventional" weapons—i.e., those with destructive mechanisms that are not nuclear, chemical, or biological—have in some cases attained degrees of military effectiveness thought of in the past as associated only with nuclear weapons. Further, certain advanced systems can be used to deliver weapons of mass destruction.

Second, as the world's economies develop technologically, the current and potential future sources of advanced conventional weapons steadily expand beyond the handful of nations previously designing and building such systems. This changing and increasingly diffuse

character of the international technology market further complicates the effective application of international controls.

The effects of this diffusion are diverse and profound. Supplier instruments, like the missile technology cartel, work only in proportion to the clout of the members and their relative monopoly on the products they are trying to control. Over thirty-five countries are able to export conventional weapons² (admittedly of widely varying levels of capability) and some suppliers have indicated they would not support a restraint regime until they have a more equal share of the arms market. In areas of weaponry where domestic procurement needs have fallen sharply, such as fighter aircraft and naval vessels, the consensus in favor of controls is even weaker.

The third reason stems from the sum of the economic stresses and discontinuities brought on by the fall of the former USSR and the Communist governments in key east European states, the decline in U.S. defense procurement budgets, and the downsizing of military force structures throughout the world. These events have caused both governments and their defense industrial base to become significantly more aggressive in trying to sell products abroad that they had previously bought for or sold to their own armed forces.

Fourth, trends in the technology market presage declining control by governments over the disposition of defense-related innovations. Critical technologies vital to defense, from supercomputers to biotechnologies to fiber optics, are increasingly commercial in origin. As developing countries establish their own weapon industries, they too become more capable of tapping into new sources of commercial and dual-use goods without reference to constraints imposed by larger powers. In the future, an ever-shrinking percentage of technology will be subject to direct government controls, testing the viability of supplier cartels or trade restrictions for all but a select number of the most advanced technologies.

Fifth, certain transfers may have a substantial adverse effect on American national security policy and on the security of U.S. personnel deployed overseas, especially if an American military presence is maintained in key regions such as Asia and the Persian Gulf. Heavily armed countries that are (or become) politically unstable could pose a direct threat to the security of deployed U.S. personnel or America's allies. In many contingencies, the proliferation of advanced weaponry could constrain U.S. policy options by making the human and material risks and costs associated with forward deployment prohibitively high.

In the face of the economic forces detailed above, alliances and individual nations that heretofore have been counted upon to take conservative and restrictive approaches to sales of state-of-the-art conventional weaponry today show much less, if any, inclination to do so. The demise of CoCom, with its structured and reasonably disciplined approach to the control of conventional arms and related technologies, left a major gap in the international coordination of national export control policies. An opportunity for filling this gap may lie in the new Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, discussed in the next chapter, but thus far agreements reached have fallen well short of U.S. goals.

Finally, we note that the challenge to restrain such proliferation includes the demand side of the equation. Desired levels of security cannot be achieved by supplier action alone. The dangers inherent in proliferation will not be eliminated in many parts of the world until changes occur in two key areas. First, the political nature of certain regimes in power must change. Second, responsible nations must improve security arrangements in their respective regions. A more

² *World Military Expenditures and Arms Transfers, 1993-94*, U.S. Arms Control and Disarmament Agency, Washington, D.C., 1994.

comprehensive collective economic, political, military, and diplomatic strategy will be necessary to create the conditions for such change.

CHAPTER TWO

Negotiation of an International Control Regime

The Board believes that the first priority for the U.S. government is to continue, with a greater dedication of resources, to push for international consensus and control mechanisms to limit selected conventional weapons and technologies. The fundamental principles of national, international, and regional security, and arms control must be the basis for that consensus. U.S. leadership is essential; nothing will happen without it.

Where to Start

The Board believes that sustainable, multilateral progress on an issue as controversial as arms and technology exports will best be served by beginning with modest objectives that can be expanded over time. This suggests that any initiative should start with incremental or technical measures that are relatively noncontroversial in countries' domestic politics, and which might therefore gain early support. The idea is to minimize the political burden that initiatives would bear at the outset in order to develop the fundamental infrastructure—both domestic and international—that would permit the institutionalization of arms restraint. Given the novel nature of this kind of diplomacy, there is much to be learned even from technical discussions. Such dialogue can create the procedures and institutions which could in turn lead to success in more ambitious undertakings.

Discussions of technical issues—from global bans on potentially destabilizing weapons or technologies to tighter restrictions on clients' disposition of dual-use technologies received from the larger powers—need not be seen as either a substitute for, or a sacrifice of, the larger objective of developing more general codes of conduct. Making progress in areas that involve a minimum of controversy could lead to the development of agreed criteria for more far-reaching application.

The Wassenaar Arrangement appears to incorporate such an approach. Concluded in December 1995, the Arrangement is still a work in progress, and the outcome of future negotiations will determine its effectiveness. In its initial form, the Arrangement covers sales of both conventional arms and militarily-useful technologies, but relies on the policies of individual nations for enforcement. Transparency measures are expected to allow for cooperative efforts, as members share information on sales of military goods. Important U.S. objectives such as prior notification of transfers and more comprehensive data sharing, however, have not been accepted in the initial agreements.³ It is nevertheless the Board's view that the Arrangement represents a practical and potentially promising forum in which to address the dangers of proliferation of conventional weapons and related technologies. [For a related report, see Lynn E. Davis, "The Wassenaar Arrangement," *The DISAM Journal*, Spring, 1996, pp. 76-79.]

Control of Weapons

Control of end items could focus on advanced conventional weapons and on especially repugnant weapons of lesser military utility. In many ways, the most threatening advanced conventional weapons are those that possess certain characteristics, including autonomous (fire-

³ The hoped-for progress on these issues was not realized at the Vienna meeting of the Wassenaar participants on April 3-4, 1996. Talks will resume after the Russian elections in July.

and-forget) operation, high accuracy, long range, and/or the ability to defeat counter-measures. Examples include submarines, stealth aircraft, advanced missiles, and directed energy weapons. The combination of high military effectiveness, low substitutability and low opportunity cost could serve as guidelines for selecting candidates for this approach.⁴

Another approach would be to emphasize restraint in the sale of weapons that raise international concerns because of the risks they pose to noncombatants or because of their perceived repugnance even when used on the battlefield. A candidate list of such weapons, known by some as “weapons of ill-repute,” would include certain incendiary and fragmentation weapons, weapons easily diverted to terrorist use such as advanced man-portable air defense systems, and weapons currently under U.S. and international review, such as blinding lasers and antipersonnel mines.⁵ Discussions of global bans on the export of weapons in which no government has a significant military stake and that pose particular risks to noncombatants could be a reasonable starting point for beginning a multinational dialogue on technology transfer restraint.

The significance of controls on weapons of ill-repute would initially be far more political than military. Achieving agreement even on broad principles or codes of conduct for the sales of such weapons, however, could serve as a foundation for more ambitious undertakings. Such efforts could build on existing instruments such as the 1980 Convention on Conventional Weapons (CCW, also known as the Inhumane Weapons Convention), which prohibits weapons that produce fragments not detectable by x-rays, incendiary weapons, and some land mines.⁶

Control of Technologies

Key technologies are those with potentially significant military applications, including certain “dual-use” technologies, along with a smaller set of “military-only” items such as fuse or warhead technologies. This broad category of items, in the form of hardware in some cases but “knowledge” in others, may move in international trade in what is on the surface a non-military and therefore nonproblematic way. Given today’s weapon systems engineering and the growing roles of sensing, data processing, and communication technologies in the effectiveness of advanced weapons and military operations, uncontrolled proliferation of relevant technology is highly undesirable.⁷

Supplier restrictions still have a critical role to play in identifying and targeting the technologies that are almost exclusively pertinent to weapons development—that are not “dual-use.” Many vital inputs for missile development, such as advanced guidance needed for missile accuracy, remain in the hands of just a few suppliers, and such commerce can be segregated from routine trade. In addition, export control policies are needed that are effective in a technology market in which there are many channels of supply, where many advanced technologies that can

⁴ Weapons have low substitutability when alternatives are prohibitively costly or nonexistent; low opportunity cost refers to minimizing the economic losses for potential sellers. For further details on this proposal, see the companion report, MR-771-OSD, Chapter Three.

⁵ Historically, the definition of “weapons of ill repute” included the concept of low military utility. As more significant technology has been packaged into smaller and smaller devices and weapons, however, some rather high-utility weapons have become targets of the same proliferation/control concerns as were land mines, incendiary bombs, and the like. For example, man-portable anti-aircraft missiles and blinding lasers, which by any measure have significant military utility in various scenarios, have come to be viewed as part of the subset of items for which the threat to noncombatants and the risk of diversion to terrorist use can be severe, thus the “weapons of ill repute” label.

⁶ The United States has not ratified Protocol 3 of the CCW, which restricts the use of incendiary weapons.

⁷ See MR-771 -OSD, Chapter Three, for a discussion of various proposals for the control of the transfer of military technologies.

contribute to weapons development have wholly legitimate nonmilitary applications, and where economic imperatives make a competitive trading system inevitable.

In short, the growing weakness of supply-side restraints flowing from the commercialization of military technologies argues for a control system that begins to shift the focus away from controls only on exports to controls on the actual end use of technologies. Likewise, for items that are commercial in origin but have dual or multiple uses—from biotechnologies to space systems—nonproliferation efforts increasingly will have to shift away from an exclusive focus on supply controls toward monitoring the application of technologies. Although current agreements include end-use assurances, they have not been reliably enforced. The Board believes that a credible system of end-use assurances is essential and can be achieved.

Such end-use arrangements will require profoundly greater levels of transparency in the international trading system and a more effective system of enforcement. Like-minded states independently and together must enhance their monitoring, verification, and compliance policies and capabilities. Moreover, judging from the cases of Iraq and North Korea, multi-national cooperation to isolate and penalize violators must go well beyond today's levels.

Transparency

Transparency both within the decisionmaking process of individual nations and among trading nations will play an ever more critical role as more and more nations develop advanced industries. Although recognition of this fact will not alone meet the challenge, it does provide a principle around which efforts can be focused. The Board believes that important deficiencies in transparency exist within the Executive Branch of the United States, as discussed in Chapter Five, and that these should be relatively easy to address. The problem of significant improvement in international transparency is more daunting.

The Board heard many proposals for greater transparency, most of them technical. Their viability will require a greater degree of cooperation and common purpose among trading nations than now exists. An obstacle to progress in this regard is that a transparency requirement for reporting and monitoring the disposition of sensitive technology would seem to impose added regulatory burdens for industry and for recipients, as could the administration of sufficient sanctions to deter misuse. It is true that a new system would have to be devised and be seen as reliable. However, if this could reduce intrusions on legitimate trade, now at the core of grievances about existing regimes, while still protecting credible nonproliferation objectives, reduced regulations could result and be welcomed by participants.

Western enterprises that manufacture and trade dual-use products have long adhered to cumbersome requirements for prior approval under restrictions imposed by national legislation, CoCom, or more selective regimes such as the MTCR. Many of these arrangements were directed against the former Soviet Union and its Warsaw Treaty allies and have lost much of their original political rationale. But there is still a strong inclination to continue them against countries of concern such as Iraq.

Countries choosing not to join a transparency regime could be denied access to its benefits, or given access on significantly more restrictive terms, at costs that become more directly calculable by governments and individuals. By seeking to advance the principle of free trade for all compliant states, and providing a clear incentive to suppliers and recipients to abide by monitoring arrangements in return for greater market access, the regime could remove many of the political impediments currently hampering control initiatives, including the perception of discriminatory application among potential recipients.

Transparency, International Negotiations, and Industrial Cooperation

Whether a new control regime should begin as a comprehensive multinational effort, engaging both suppliers and recipients at the outset, or should start with the major advanced countries will depend on prevailing political conditions and the scope of restraint proposals envisioned. A multinational regime could be pursued on several tracks, however, consisting of supplier negotiations and separate recipient negotiations, with regional restraint regimes being considered over time. This could supplement national, bilateral, and informal efforts.

At the international level, a multinational secretariat with the mandate to monitor proliferation in an integrated manner could help redress the problems posed by the fragmentation of existing arrangements and bolster their effectiveness. Such a mechanism could help formalize and streamline control guidelines, establish procedures for routine consultations among participants, and anticipate new technological and political challenges. While it could build on the operational experiences of such institutions as CoCom and the UN Special Commission, the new organization would have to avoid being seen as a supplier cartel. A supplier arrangement that attempts to minimize or avoid consultation with recipient countries would likely be regarded as high-handed and self-defeating. Accordingly, the Board urges that the evolving Wassenaar process strive to ensure such broad and inclusive consultation.

To make such a regime work, particularly as regards technology controls, cooperation with industry is essential. In the United States, for example, restraint policies have been imposed by the government after only limited consultation with industry. One result has been industry antagonism and efforts to undercut unpopular policies through Congress or the media. But industry has a potentially vital role to play in a future restraint regime. As the main source of expertise on technology and usually the party most involved in actual transactions, industry may be the best means by which governments can track compliance with restrictions on exported products. Industry could help identify relevant building blocks and "fingerprints" for particular proscribed technologies and devise safeguards and other end-use restrictions to prevent the diversion of civilian or dual-use equipment to military application.

We think industry may well prove supportive of at least selective export controls for advanced dual-use products that raise international security concerns. Facing continued conflicts over the permissibility of exports of supercomputers and associated software, for example, IBM set about in 1990 to help devise credible end-use assurances that would prevent diversion of civilian computers to military uses while permitting freer trade with legitimate clients.

CHAPTER THREE

International Institutional Development

With modest exceptions, international concern about conventional proliferation has not been translated into effective policy implementation. Following a series of negotiations beginning in 1991, for example, a majority of members of the General Assembly approved a proposal in December of that year to establish an international registry of arms exports and imports, under the auspices of the UN Secretary-General. The Permanent Five (P-5) members of the Security Council (the United States, Russia, China, Britain, and France) also began discussions of procedures and negotiated guidelines for prior notification of arms contracts, an important initiative whose implementation failed earlier in the decade but was revisited during negotiations of the Wassenaar Arrangement. The "Small Group" of Arrangement members, which includes four of the Permanent Five (not China) along with Italy and Germany, continues to discuss notification procedures.

At a minimum, the arms registry, if it succeeds, will represent an important move toward greater transparency in the international defense trade system and a resumption of P-5 cooperation may prove critical in troubled regions. The Board wishes to emphasize that important international efforts such as these will not advance without better data on arms and technology sales. The Board believes that current estimates of the international arms market made in dollars or other currencies, however useful, cannot substitute for comprehensive data on disaggregated quantities and specific types of transfers. Indeed, they can mislead assessments of international security consequences and estimates of economic implications. Also, a much more detailed approach to quantity and quality must be developed, in any case, if the transparency regimes anticipated in this report are to have the desired effects.

Within international lending institutions such as the International Bank for Reconstruction and Development, the International Monetary Fund, and the more recently established European Bank for Reconstruction and Development, there is growing interest in linking international financial assistance to various norms of military behavior, including defense expenditures and, more ambitiously, compliance with treaties. This represents a marked shift in attitude among institutions that for decades promulgated the formal fiction that a country's defense sector should not be included in evaluations of its economic performance, political stability, and other variables that go into decisions about credit or aid eligibility.

Bilateral aid agencies, such as the U.S. Agency for International Development and Japan's Ministry of Foreign Affairs, have made it explicit that they will consider military behavior in granting aid. Further examples of this linkage may be found in various Western arrangements to provide financial and material assistance to former Soviet bloc countries.

Direct financial inducements are being used increasingly for advancing efforts to constrain the diffusion of former Soviet weapon designers and engineers from lending their expertise to defense industries in developing nations. The recent increase in the membership of the MTCR may also be a basis for discussions of additional conventional weapons technologies, including more comprehensive understanding about advanced cruise missiles. The regime has grown from an initial membership of seven in 1987 to twenty-eight members to date, of which Russia, South Africa, and Brazil are the most recent. In addition, while not official members, China, Israel, and Ukraine have agreed to abide by MTCR guidelines.

The possibility of aid to countries to establish export control programs needs examination. There is precedent: with the assistance of Western specialists, the Russian government has announced plans to set up a special body, composed of senior officials from departments in the foreign policy, industry, economics, finance, and security ministries, for exercising political control over arms exports. It may be that the Wassenaar Arrangement could provide a forum for exploring such initiatives.

In evaluating candidate regimes, the Board heard from a number of officials in the responsible agencies—Departments of Defense, State, and Commerce, Arms Control and Disarmament Agency (ACDA), etc.—regarding conceptual approaches to new restraints. The ideas put forth included several aimed at creating incentives or mitigating economic losses for prospective signatories of such regimes. In all likelihood, these ideas will continue to be analyzed and debated in the ongoing U.S. government policy process.

The Board has looked closely at these ideas, and believes that two of them warrant brief description and comment here. One proposed incentive would involve a system of free defense trade in nearly all existing advanced weapons and related technologies within a signatory group as a "carrot" for regime members agreeing to rigorous transfer restraints on agreed items to third parties. The Board doubts the feasibility of this concept. Access to U.S. technology and weapons

should continue to require a broad determination by the United States as to shared policy and values with the recipient, often including specific security treaty participation or other agreements.

Providing such access to a constraint regime signatory simply in return for agreement not to sell certain items to third parties could have a perverse effect on nations not already possessing significant defense technology or production capacity. In such cases, proliferation might in fact be increased through "incentive" transfers to those who heretofore had no such access. In our view, proliferation involving one or more recipient countries does not represent a useful incentive for restraint regimes, the very purpose of which is to reduce or halt that same proliferation elsewhere.

The second incentive the Board finds inappropriate is one based on the technological superiority of the United States and certain key allies. Some officials postulated using membership in joint weapons development or production programs, and others suggested offering access to specific dual-use or defense technologies as well, as carrots to certain nations to induce their acceptance of restraint regime rules. The Board sees a potential proliferation problem in this approach as well.

In addition, we believe that there are problems of practicality with these concepts. Past efforts at major multinational weapons development or production programs have for the most part failed to deliver their touted economic benefits for either the United States or its partners. As a result, industry and its shareholders—as well as a number of governments—show little interest today in such arrangements, except on extremely favorable economic terms. As for using technology transfer as a regime incentive, there is a further question. Since industry in the United States, Europe, and Japan holds proprietary claim to most such technologies—especially those developed commercially—it is not feasible for the United States or other governments to offer simply to "give" this knowledge to a prospective regime member. The legal obstacles in determining proprietary rights and establishing compensatory value for such transfer, plus the obvious federal budget impact of any required compensation, are probably insuperable.

Our purpose in this discussion is not to discourage broad, creative thinking in pursuing new restraint concepts. Nor do we want to understate the potential value of incentives for inducing participation by nations with obvious economic reasons to seek markets for their arms industries. The Board also recognizes that the desire for full participation in other high-technology markets has provided nonproliferation incentives for many nations. However, we believe that the primary motivation for national and multinational restraint is and should be the resulting genuine increase in national security derived from nonproliferation of advanced weaponry.

Another area for examination is the rationalization and integration of existing nonproliferation regimes. The United States alone currently participates in at least six distinct control arrangements to restrict nuclear, chemical, and biological weapons, missiles, select conventional weapons, and dual-use technologies. They each have had varied histories and political fortunes, and contain different mechanisms for surveillance, control, enforcement, and administration.

Even as they operate as separate entities, in practice the regimes face similar legal, regulatory, and administrative challenges. Over time, the phenomenon of weapons proliferation has in and of itself become synergistic as more countries seek to acquire proscribed weapons, weapons production technology, and material as part of concerted national strategies. Violations experienced within the various regimes often involve the same arms traders and conduits of clandestine transfer, and thus pose common intelligence and enforcement challenges as well. International intelligence sharing, shared procedures for monitoring and inspections of trade

flows, joint preparation of lists of controlled items and end-users, and a concerted effort to marshal political support for enforcement would obviously benefit from streamlining existing national and multinational enforcement mechanisms.⁸

These measures might be implemented by the Wassenaar Arrangement, which would receive data collected through national licensing procedures. Data sharing and transparency measures to promote the desired restraint would have to be accompanied by an international consensus that concealment of information should be subject to penalties, just as there must be punitive measures for violations of internationally accepted norms.

The principle of open disclosure and cooperative enforcement is already imbedded in the Chemical Weapons Convention, which has been signed by 160 nations to date. Similar undertakings include, *inter alia*, the U.S. effort to recast the premises and guidelines of the Export Administration Act, continued development of the Wassenaar Arrangement, and support for more intrusive challenge inspections pursuant to the Nuclear Non-Proliferation Treaty.

Again, the history of past efforts to limit armaments teaches us that restraints depending solely on supplier cartels are insufficient and are further weakened when they appear discriminatory. As with the effort to control drug trafficking or other illicit forms of trade, control agreements must ultimately focus on the demand side. It is in regional contexts that conventional balances deserve the most attention, but where consultative mechanisms are the least developed. For restraint initiatives to be considered seriously outside of the advanced countries, they will require devising new mechanisms for regional security consultations that can bring new states into a broader security partnership.

Regardless of how much progress in arms restraint agreements is or is not achieved, the development of common understandings to guide crisis management and crisis resolution among nations will become increasingly important as regional power alignments become more diffuse and clients more militarily capable. Bilateral and multilateral regional security talks, as have been pursued in the Middle East and South Asia in recent years, are in and of themselves a vital undertaking that in turn could serve as the foundation for agreements on arms shipments tailored to specific areas. Such initiatives are unlikely to succeed, however, if the major suppliers are engaged in intense competition for arms markets motivated by their respective domestic interests.

CHAPTER FOUR

Domestic Economic and Industrial Base Issues

The Board's review included examination of issues regarding the defense industrial base and associated employment. The Board heard from both government and industry representatives on these subjects, and from interested scholars and citizens, and looked closely at the economic impact of controlling conventional arms transfers.

In response to the profound decline in Department of Defense procurement over the past five years, U.S. industry has downsized, shut down, and otherwise restructured many production facilities and weapons assembly lines. Some firms have exited the business in particular weapons categories, but there remain one or more producers active in each key product area. Further,

⁸ Perhaps the most important example of the benefits of an integrated approach to nonproliferation is the case of Iraq. By combining nuclear, chemical, biological, and missile technologies under Resolution 687—the blueprint for the disarmament of Iraq—the UN Security Council explicitly recognized the need for an integrated approach to the detection and destruction of the Iraqi arsenal. Combined verification efforts, in turn, have proven vital to the effectiveness of 687. Many of these lessons could apply to other control regimes.

while the global trade in conventional arms has dropped significantly from the historic highs of the mid-eighties, the U.S. totals have remained relatively constant. In today's shrinking international arms market, the United States has thus significantly increased its market share, from an average of 21 percent in the 1980s⁹ to a 1994 level of 52 percent of the total world volume.¹⁰

Nevertheless, as specific sales are reviewed and key regional transfer policies debated (the Middle East and South Asia are perhaps the most significant examples), U.S. industry has put forward declining DoD procurement budgets and the value of "warm" production lines as arguments for approval. Indeed, a number of "mainline" weapon system production lines today are operating solely to meet foreign sales requirements, with no budgeted DoD procurement of those systems for U.S. use. Examples include the F-15 fighter, the M1 main battle tank, and the Harpoon antiship missile.

The Role of Economic Criteria

As discussed more extensively later in this chapter, the Board finds that U.S. arms transfer policy can and should be developed and executed separately from issues of maintenance of the defense industrial base, which we believe are better handled by specific DoD industrial base policy. We do not believe that arms sales that would be rejected on the basis of foreign policy and national security considerations should be approved simply to preserve jobs or keep a production line open. The Board believes it is essential that the U.S. government take steps to make this policy clear at home and abroad.

A policy approving arms transfers solely for industrial base reasons would undercut and perhaps even preclude the very sorts of new and effective international restraint regimes we urge here. If any participating country is allowed to use its independent judgment regarding its own internal economic circumstances as a rationale to transfer a weapon or technology, the whole purpose and nature of a restraint regime would be subverted. Accordingly, the Board believes that it is not only appropriate but mandatory that the United States and other nations agree to handle legitimate domestic economic and defense industrial base issues through other policies and actions, rather than allow them to circumvent restraint agreements for particular weapons and technologies.¹¹

The erosion of restraint driven by this sort of economic competition could have severe consequences. The United States and its allies have been fortunate in that their soldiers, sailors, and airmen have seldom had to face in combat advanced conventional weapons of their own manufacture. The few examples, however, are troubling. The Board is concerned that domestic political pressures already strong in major supplier countries could increase significantly the number of risky sales in the name of jobs or the economy. A disturbing image is forming: ever more transfers driven by shrinking defense industries placing increasingly more capable weapons in troubled regions. The exporting states in turn feel compelled to develop and produce even more advanced weapons to counter this proliferation. This increasingly vicious circle is indeed worthy of prevention or early treatment.

⁹ Average U.S. share of world arms exports, 1983-1989; from U.S. Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers*, 1993-1994, February 1995, p. 15.

¹⁰ U.S. share of all arms deliveries worldwide in 1994. See Richard F. Grimmett, *Conventional Arms Transfers to Developing Nations, 1987-1994*, Congressional Research Service, August 4, 1995, p. CRS-82.

¹¹ See discussion in MR-771-OSD, Summary.

Financing of Arms Sales

The Board also reviewed instances where, under current law, U.S. arms sales are at an economic disadvantage both in competition with equivalent foreign products and as compared with other U.S. exports. As a matter of principle, the Board believes that free trade without the price distorting mechanism of government subsidies is a desirable goal. Excessive government involvement frequently inhibits free trade and reinforces unhealthy special-interest relationships between governments and industries within their jurisdiction, particularly with government owned or subsidized companies. In the case of arms sales, this can lead to strong domestic pressures to make sales of weapons or technologies that may be unwise from an international security perspective. Certain sales to Iraq are a case in point.

U.S. policy toward government financing of its own exports should support the goal of reducing or eliminating subsidies on a global basis.¹² Compromise legislation passed and signed into law in February 1996 creates a defense financing facility designed to provide government loan guarantees. The selling company or its foreign customer must pay an "exposure fee" to cover potential U.S. government liability. Such an approach can help American companies meet the requirement for government-backed loans that some foreign governments demand. The Board fears that pressure to use the new defense financing facility to provide genuine subsidies will grow unless the goal of reducing and eliminating subsidies among competing suppliers is advanced. The Board believes that the Administration and the Congress should work together to develop and implement a strategy to gain multinational restraint on all manner of price distortion and unfair trade practices.

The R&D Recoupment Charge

Current law provides that when certain weapons developed for U.S. use are sold abroad by the U.S. government, a charge is to be added to the price and remitted to the Department of Defense. This requirement, intended to recover part of the U.S. government's original investment, is called an R&D recoupment charge. The case-by-case application of this charge has historically been both uneven and controversial. Various administrations have obtained numerous exceptions from Congress, allowing the charge to be reduced or waived for foreign policy reasons. General exceptions currently exist in law for individual nations, including NATO allies.

Industry has argued that the charge discriminates against defense contractors, since such recoupment rules have no such parallel in other areas where the U.S. government has made major R&D investments in developing and purchasing capital equipment—for example, power generation, telecommunications, computer systems, and nuclear reactor technology. Further, American firms cite the R&D recoupment charge as a clear and sometimes significant price discriminator against them as they compete for sales in third countries against foreign producers. These foreign competitors have no equivalent added costs, and may even benefit from overt or covert subsidies from their respective governments. Based upon its review of this issue, the Board supports the Administration's stated intent to seek repeal of the current R&D recoupment charge.

Offset Provisions

The Board also heard differing opinions on a long-standing issue regarding arms transfers—the negotiation of offset provisions in sales contracts that involve agreements to buy one or more

¹² This argument is not meant to preclude various forms of U.S. government aid to other nations, such as training assistance, development loans, and outright grants of equipment.

aspects of the weapon program in question in the purchasing country's own economy, very much like the current approach by foreign automobile producers selling in the United States. Such direct offset agreements can also involve conducting final assembly, integration, and test tasks in the purchasing countries, similar again to the automotive market's trend to shift foreign product final assembly onshore to the United States.

Nations purchasing arms are sometimes unable to provide cost competitive or technologically suitable weapons components, and in such cases often use indirect offset as a way to defray part of the costs of their purchase and the negative trade balance impact of such major imports. U.S. and other exporting weapons producers have in these instances agreed to purchase or broker a wide variety of nondefense items from the purchasing country, or to make equity investments in commercial enterprises there.¹³

The Board notes that certain opponents of current arms control policy, along with organized labor, argue that the U.S. government should prohibit, or at least significantly restrict, offset agreements as a part of arms sales. Primary reasons voiced in support of this position are that offsets can involve destabilizing proliferation (as in providing design or manufacturing expertise) and that, similarly, they create economic loss both through near-term diversion of jobs overseas and through the long-term risk of strengthening foreign competitors in the marketplace. On the first point, the Board agrees that all transfers of arms and related technology warrant careful government review, especially when the transaction creates a new military or industrial capability abroad. However, if offset provisions pass such an examination, the economic aspects of each sale should be left to the producer and purchaser.¹⁴

In considering the second issue, that of job loss, which applies both to direct and indirect offsets, the Board finds no persuasive argument for U.S. policy constraints other than the same basic arms/technology transfer criteria noted above.¹⁵ The long and successful history of U.S. commercial trade in high-technology items (from power-generation equipment to industrial machinery to transportation vehicles) is full of direct and indirect offset arrangements, and the net benefit to the U.S. economy has been substantial. The overall economic and employment impact of foreign trade—of which offsets are a small subset—is highly positive. In summary, the Board believes that once a proposed transaction meets U.S. policy on arms control and transfer restraint, that same transaction's specific business terms between seller and buyer should not be artificially altered for economic reasons by the governments involved.

¹³ Indirect offset examples from past sales show great diversity and creativity on the *part* of the buyers and sellers. The list includes consumer goods of all types, commitments to a certain volume of tourist trade (involving airline tickets, hotel and tour group reservations, and visits to certain designated regions), bartering of various foodstuffs into the U.S. or other economies, and joint venture equity investments in everything from powerplants to hotels to commercial and industrial real estate and construction.

¹⁴ A long series of major arms exports with significant offset, from the original F-16 European Production Group in the late 1970s to the Japanese F-15 co-production arrangement, through the Korean K-1 tank development, to the more recent Japanese F-2 (formerly FS-X) fighter development, have all involved this type of major government review and item-by-item approval for the direct offset involved.

¹⁵ If the alternative to granting offset demands could be simply retaining complete workshare (all jobs) here, then U.S. industry would (and in some cases actually can) do so. In cases where a U.S. firm faces no credible competition and where the buyer has a strong security rationale for the weapon in question, American firms have been able to negotiate without significant offset concessions. In most instances today, however, U.S. and other producers use offset as well as other economic concessions to secure business in a competitive environment. In that market, winning while conceding a portion of workshare through offset results in the creation or extension of American jobs. It is important to remember that if the alternative is that the U.S. firm loses the sales contract, the U.S. economy ends up losing every one of the jobs involved.

The Defense Industrial Base

The final economic issue reviewed by the Board involves arguments by some in the U.S. defense industry who contend that robust foreign arms sales are critical for sustaining an adequate defense industrial base.¹⁶ The Board rejects any notion that stepping back from well-conceived arms restraint policies is the way to ensure the health of our defense industrial base. The radical restructuring and adjustment to much smaller markets in the world's defense industries will, as the RAND and other studies document, continue into the foreseeable future. The export market is much too small to offset the overall decline in defense procurement. Hence, the existence of export sales opportunities for U.S. firms, while obviously valuable in preserving jobs and production lines in many cases, will not be sufficient to allow the affected companies to forgo the downsizing required for their survival.

As President Clinton has stated, U.S. defense firms and their labor forces should not be the scapegoats of sweeping sectoral change. The Administration has created a defense industrial conversion program to help American companies adjust to the decline in procurement. Contractors who do not succeed in diversifying out of defense production will still face difficult problems of excess capacity and job losses, but arms exports that would not otherwise be approved are not the proper remedy. Likewise, means other than questionable arms sales are available to maintain or reconstitute essential elements of the defense industrial base.

In short, the Board believes that, in general, the best solution to overcapacity in defense industries, in the United States and worldwide, is to reduce supply rather than increase demand. For that reason, the Board has concerns about any cooperative approach or cartel that would constitute a floor for rather than a constraint on arms sales. Some companies now in the world arms market are not competitive and are financial drains on their respective nations' economies. With due regard to the complexities involved, the Board believes that an approach that discourages subsidizing or otherwise maintaining uneconomical defense industries makes the most sense. Unwise arms sales remain unwise no matter how many jobs are involved; moreover, those jobs are protected only in the short term.

CHAPTER FIVE

Improving the Government's Processes for Export Control Policy and Administration

As we stated in the Introduction, good policy and good process go hand in hand. The present U.S. system of export controls is, however, so dispersed that the line between policy formulation and its implementation is murky and day-to-day administration is less efficient than it should be. More specific attention at the senior policymaking level is needed. A December 6, 1995 Presidential Executive Order¹⁷ on export controls restructures the review process for dual-use licenses, but it is too early to judge its impact.

The outcome of deliberations over technology and arms sales often is influenced by the relative clout of the agencies involved, the perceived importance of the recipient in domestic political terms, and even the expertise or endurance of individual participants involved in evaluating cases. Bureaucratic warfare, rather than analysis, tends to be the *modus operandi* in what is often a protracted process of plea bargaining and political compromise that may not reflect long-term national objectives.

¹⁶ On this subject, the Board commends the reader to the RAND analysis, MR-771-OSD, Chapter Five.

¹⁷ Executive Order 12981 maybe found in MR-771-OSD.

In its examination of arms proliferation policy, the Board recognizes that U.S. goals are neither solely nor even primarily in the arms control arena. The composite national security strategy, foreign policy, and domestic agenda of the government reflects an attempt to optimize among incommensurate and not always complementary objectives. Thus, the interagency process created to make decisions should represent effectively the diverse views of the various departments and agencies created to address different objectives of the United States. Certainly, for example, the State Department must weigh diplomatic considerations, the Defense Department must consider its own programs and overseas security relationships, and the Commerce Department must look to trade. All of the major departments also have an interest in preventing the proliferation of weapons and technologies of concern, but in each case that perspective is subject to countervailing pressures at all levels of decisionmaking.

Separate export review mechanisms grew up first for weapons and later for dual-use technologies. Consequently, there are unnecessary differences and duplication between these two processes.¹⁸ Further, the process by which the various responsible agencies review individual export requests, and are able to communicate their positions to the designated coordinating department or agency, is cumbersome and outdated. Unlike similar government policy processes within a single agency, the export licensing mechanism has seen little modernization or upgrade, largely because of the challenge of getting broad interagency agreement on information system hardware, software, and operating procedures.

There is nothing inevitable about this situation. The solution rests with a sustained effort by senior policymakers, particularly the President and the National Security Council. Because export controls are justified on national security and foreign policy grounds and because of the many agencies involved, the National Security Council must take the lead in fundamental policy formulation. The Board does not here try to lay out exactly what policy mechanisms the NSC should use—obviously, different agencies will have different points of view and a means to give them a voice in policymaking and to resolve major disputes is required. But the NSC's role should be more than that of a mediator. It should take the lead in formulating policy and issuing policy guidance. This will require deeper institutionalization of the export control policymaking process—a process that today is episodic and tends to produce guidance at such a high level of generality as to be much less useful than it should be.

The day-to-day administration of export controls can also greatly be improved. The most prominent players in export control decisions are now the State Department, the Commerce Department, and the Treasury Department (which implements various country-specific embargoes under the International Emergency Economic Powers Act). Although the Defense Department does not make final licensing decisions, its views and those of the Arms Control and Disarmament Agency heavily influence those decisions. The Board found reason to be concerned that due regard may not be given to nonproliferation issues, absent a clear voice representing that perspective at all levels, including the Oval Office. The Board believes that this responsibility has rested primarily with the United States Arms Control and Disarmament Agency since 1961. Until such time as the threat from proliferation is greatly diminished, the Board believes that

¹⁸ Under the Arms Export Control Act, the State Department administers controls on the export of weapons and related technology and services, based on the U.S. Munitions List, with input from the Defense, Energy, and Treasury Departments, the Arms Control and Disarmament Agency, and the Intelligence Community. Under the Export Administration Act (EAA) and its antecedents, exports of dual-use items are administered and controlled by the Commerce Department, with input from the same agencies. Over time, the EAA and associated regulations have been expanded from their initial focus on ensuring adequate domestic supplies of critical technologies during World War II to support for efforts to keep certain enabling technologies out of the hands of hostile states. The MTCR, nuclear nonproliferation, and chemical and biological weapons control regimes are all supported through this law, as was the CoCom regime. Although the EAA expired in 1994, the law and associated regulations continue to be enforced through Executive Order 12924, issued pursuant to the International Emergency Economic Powers Act.

such an independent agency is essential and a further strengthening of its nonproliferation mandate is warranted.

As already indicated, these agencies have different and often conflicting missions. As a result, too much time is spent in settling disputes and not enough in operating the export control system; senior policymakers often lack a balanced view of important policy issues; regulations overlap and sometimes conflict; enforcement jurisdictions overlap; and information flow within and among agencies is inadequate, inefficient, or both.

Proponents of consolidation of some or all elements of the arms and dual-use technology export application, review, and approval process into a single organization cite two primary benefits of such change. To the extent that multiple offices, staffs, registration and analysis procedures, forms, data systems, and review processes could be rationalized and consolidated, there could be significant budgetary savings. In addition, the many American businesses—both large and small—seeking permission to export would benefit from the cost, time, and consistency advantages of so-called “one-stop shopping.” American business has a legitimate concern that its international competitors gain an advantage from the relatively inconsistent and slow-moving U.S. regulation of technology exports.

Such consolidation could, as a first step, include the administrative aspects of case applications and information service for applicants. It could also be expanded to provide individual approval/denial decisions in clear-cut cases where the responsible policy agencies were comfortable delegating such authority without requiring formal interagency review. At the extreme, it is conceivable that a set of statutory revisions could transfer and consolidate legal authority for essentially all cases in a single department, agency, or office.

While the Board takes no position as to where and in what form such consolidation would best be accomplished, it agrees that the Executive Branch should pursue such an approach. Even if only the first two steps noted above were executed—processing of applications and approval authority for certain routine or noncontroversial cases—the efficiencies would be significant. In addition, the government’s ability to then share and distribute transfer information both internally and externally would also be enhanced. Such increased efficiency and transparency would further many U.S. interests and goals, both in nonproliferation policy and elsewhere. While consolidation all the way to the third step described here has potential benefits, it also raises other questions regarding both feasibility (securing the complex legislative agreement and change required) and desirability (overall policymaking consolidation by its nature can reduce the interplay of the different responsibilities and perspectives at Defense, State, Commerce, Energy, ACDA, and other interested departments and agencies). The Board accordingly believes the Administration’s focus should be on the first two areas, where the benefits clearly outweigh the costs and risks.

Whether or not consolidation takes place, an investment in modern data base management is badly needed; it will save money and make for more consistent and intelligent application of policy in the long-run. The development of such a regime has been frustrated by failure to get interagency agreement on information system hardware, software, and operating procedures, and by lack of adequate funding.

In summary the Board recommends the following principles to guide this much-needed innovation and improvement in the interagency process.

1. Given the many interests involved, the NSC process must be used, and used effectively. A senior official from the NSC staff, as opposed to any of the affected agencies, should lead

this extensive effort, with the clear goal of promptly improving the decisionmaking effectiveness and efficiency for all arms and dual-use technology export issues.

2. Insofar as possible without new legislation, the President should, by executive order, merge the administrative and routine decisionmaking arms and technology transfer control processes, and should ensure maximum efficiency and interagency coordination, as well as the integration of their information more fully into the policy process.
3. Through the NSC process, a package of legislative and regulatory changes to integrate the current transfer regulations into a single, coherent framework should be developed and proposed to the Congress.
4. The Administration should identify and empower a responsible agency or organization, working closely through the NSC interagency process, to develop an integrated management information system for use by all agencies involved in the export control process. This new system should be optimized for efficient electronic exchange of information on license applications; for reporting requirements for the United Nations, other international organizations, and the U.S. government; and for direct interconnect with the intelligence and enforcement communities as they both input and draw information from the license application and review process. The Administration should propose and the Congress agree to a onetime appropriation to fund procurement and installation of the system.
5. The Administration should continue and redouble its current efforts to increase the intelligence community's focus and capabilities to understand and monitor key conventional weapons capabilities, overt and covert export to third parties of such weapons or technologies, and the potential near- and longer-term impact for U.S. and allied joint commanders and forces.

CHAPTER SIX

Summary

Advisory Boards such as ours invariably grapple with broad mandates, changing circumstances, and widely diverse interests concerned with the substance of Board charters. As we have noted, our approach has been to review and offer recommendations on both policy and process. We have endeavored to review the Administration's current policies regarding conventional arms control, and have commented only where we concluded it appropriate. We are under no illusions as to our limitations in addressing but a few of the myriad interests and issues of great concern to the various parties concerned with arms proliferation policy.

At the core of our recommendations is our belief in the value, indeed the necessity, of strong U.S. leadership in the quest for more effective arms control in the nation's interest. This leadership must come from the top, involving the President, his Cabinet, and the Congress. As we have stated, within the Executive Branch that initiative requires in the first instance, more policy-oriented interagency coordination and execution of policy, which in turn requires a strong focal point of administration leadership. We believe that leadership can and must come from the National Security Council's long-standing interagency process. That NSC-led process, in addition to selecting and implementing the kind of advanced conventional arms restraint regime postulated here, must also address the thorny question of governmental process the Board has highlighted. There is no doubt that how we make policy and how we make individual arms or technology transfer decisions is absolutely critical to achieving U.S. arms control goals.

We believe that it is of great importance to reemphasize a point about focus. The Board's recommendations for both policy and process are built on a long-term commitment to improvement and progress, rather than on any discrete preferred regime or proposed organizational realignment. The world struggles today with the implications of advanced conventional weapons. It will in the future be confronted with yet another generation of weapons, whose destructive power, size, cost, and availability can raise many more problems even than their predecessors today. These challenges will require a new culture among nations, one that accepts increased responsibility for control and restraint, despite short-term economic and political factors pulling in other directions. While the image of a "journey" has become almost trite in today's culture, it is just such a concept that perhaps best describes the strategy for success in achieving necessary restraint on conventional arms and strategic technologies, and the resulting increase in international security.

The Administration has in recent months, in parallel with the Board's deliberations, taken steps such as the Wassenaar Arrangement, which could be the key to more enduring and comprehensive successes in restraint and control. Leaders in the Administration and in the Congress should be heartened to know that there is no shortage of individuals, in and out of government, whose energy and commitment can contribute to the ongoing effort. We are proud to have been a part of that dialogue, and are committed to continuing our participation. We summarize here the major recommendations put forward in our report:

- Effective restraint requires international cooperation. U.S. leadership is essential to this end.
- The fundamental principles of national security, international and regional security, and arms control must be the basis for international agreement. The inevitable economic pressures that will confront individual states should not be allowed to subvert these principles.
- Sustainable, multilateral negotiations over an issue as controversial as arms transfers are best served by beginning with modest objectives that can be expanded over time. The Wassenaar Arrangement represents the most practical and promising forum to date in which to address the dangers of conventional weapons and technology proliferation.
- New international export control policies are needed for a technology market where there are numerous channels of supply and where many advanced technologies relevant to weapons development are commercial in origin. This requires augmenting controls on the supply of a technology, with a greater emphasis on disclosing and monitoring end-use.
- U.S. arms transfer policy can and should be developed and executed separate from policies for maintenance of the defense industrial base. It is not only appropriate but essential that the United States and other nations handle legitimate domestic economic and defense industrial base issues through such separate policies and actions, rather than use them to abrogate or subvert arms control agreements for particular weapons and technologies.
- Arms and weapons technology transfers should take place without the price distorting mechanism of government subsidies or penalties. The R&D recoupment charge, which is inconsistent with the federal government's treatment of sunk investment costs in any other area of policy or budget expenditure, should be eliminated. Arms exports should not receive subsidized financing; rather, the effort should be to eliminate such distortions internationally.
- There should not be governmental constraints on direct and indirect offsets other than the review, under established standards, of any arms/technology transfer involved. The overall

economic and employment impact of foreign trade is highly positive, and any attempt to dictate or curtail pricing, workshare, or "countertrade" agreements between buyer and seller is counterproductive.

- The current fragmentation of U.S. government controls on transfers leads to great inefficiency and uncertain policy implementation, to the detriment of proliferation controls on the one hand and to the disadvantage of legitimate U.S. commerce on the other. Administration, information systems, and routine decisionmaking should be consolidated. An integrated management information system should be developed as soon as possible for use by all agencies involved in the export control process. In the longer run, statutory revisions to integrate the entire process in a single office should be pursued.
- Within the U.S. government, the NSC should give substantially greater priority to leading and improving the interagency arms export control process.
- The Administration should increase the intelligence community's focus and capabilities to understand and monitor conventional weapons and technologies developments and transfers.